

In The Drawings

A replacement drawing sheet showing an amendment to FIG. 2 is hereby submitted for the Examiner's approval.

REMARKS

Claims 1-44 are pending in this application. Claims 1, 4, 7, 10, 14, 17, 20, 24, 28, 31, 36 and 42 are independent. The amendment responds to a Final Office Action mailed by the PTO on December 2, 2003 rejecting all claims.

The Office Action objects to the drawings because original FIG. 2 includes the reference sign "G", which is not described in the specification. Applicants have submitted a proposed drawing correction that deletes the reference sign "G" from FIG. 2.

The Office Action also objects to the drawings because both "12" and "16" are used to designate the article. Applicants note that page 8, line 3 of the originally-filed specification contains a typographical error, wherein the "articles" are designated with the reference sign "12". Applicants have submitted a replacement paragraph for the first paragraph on page 8 to correct this typographical error, thereby obviating the objection.

The Office Action further objects to the drawings because "20", "22" and "28" are used to designate the fixture. Applicants note that page 13, line 3 of the originally-filed specification contains a typographical error, wherein the "fixture" is designated with the reference sign "28". Applicants have submitted a replacement paragraph for the first paragraph on page 13 to correct this typographical error. Additionally, Applicants note reference signal "20" is used to designate the "fixture", whereas reference signal "22" is appropriately used to designate a modified "fixture". (See, e.g., page 13, lines 7-8 of the specification, which discloses that fixture 22 constitutes a modification of fixture 20).

Rejection Under 35 U.S.C. 101

The Office Action rejects claims 2, 3, 5 and 10-44 under 35 U.S.C. 101 because the disclosed invention is allegedly inoperative and therefore lacks utility. Specifically, the Office Action states that “the fixture is merely an aluminum, steel or plastic material, but there is no teaching of how these materials will, in any way, affect the uniformity” and “(t)he fixture merely acts to block the radiation at different areas, but as depicted in Figs. 3-5, does not in any way block the beam”. Applicants respectfully submit that the invention is useful and operative as disclosed.

An invention that is "inoperative" if it is not a "useful" invention in the meaning of the patent law. See, e.g., *Newman v. Quigg*, 877 F.2d 1575, 1581, 11 USPQ2d 1340, 1345 (Fed. Cir. 1989). However, the Federal Circuit has held that the claimed device must be totally incapable of achieving a useful result to violate 35 U.S.C. 101." *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1571, 24 USPQ2d 1401, 1412 (Fed. Cir. 1992). See also MPEP Section 2107, which sets forth that situations where an invention is found to be "inoperative" and therefore lacking in utility are rare, and rejections maintained solely on this ground by a Federal court even rarer.

Applicants' invention solves the problem of providing a more uniform distribution of radiation to an article having irregularities in shape. Referring to page 10, second paragraph of the originally-filed specification, a fixture is described as “having characteristics, in response to radiation from the accelerator, substantially corresponding to those of the article”. In other words, the composition of the fixture is chosen such that the fixture and article have substantially similar radiation absorbing properties. The specification cites aluminum, steel and plastic

materials as examples of suitable fixture materials, depending on the characteristics of the article in response to radiation from the accelerator. The geometrical shape of the fixture complements the geometrical shape of the article such that, as a composite, the fixture and article substantially form a square.

In operation, article 16 moves past accelerator 12 in a direction substantially perpendicular to the direction of the radiation from the accelerator. Article 16 absorbs radiation at each position dependent upon the thickness of the article at that position. (Page 8, line 7 to Page 9, line 17). Since fixture 20 has radiation absorbing characteristics that correspond to those of article 16, a composite comprising both article 16 and fixture 20 is essentially a square in cross-section. In this manner, every position in the composite absorbs an amount of radiation that falls within predetermined minimum and maximum limits. Applicants have reduced the invention to practice in accordance with the teachings of this application and are prepared to submit a declaration to this effect.

Rejection Under 35 U.S.C. 112, first paragraph

The Office Action rejects claims 2, 3, 5 and 10-44 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. More particularly, the Office Action states that “(t)here is no application of a magnetic or electric field that will effect the irradiation of the beam, and there is no rotation of the article or the beam source that could led to the desired uniformity”. Applicants respectfully that the claims 2, 3, 5 and 10-44 of the present invention recite subject matter which has been so described in the specification as to enable one of ordinary skill in the art to which the subject matter pertains to make and use the invention.

Applicants' invention does not involve the application of a magnetic or electrical field that will affect irradiation. Nor does Applicants' involve the rotation of the article or the radiation source. Instead, Applicants' invention solves the problem of providing a more uniform distribution of radiation to an article having irregularities in shape by providing a complementary fixture that features substantially similar radiation absorbing properties as that of the article. The geometrical shape of the fixture complements the geometrical shape of the article such that, the fixture and article substantially form a square composite, wherein every position in the composite absorbs an amount of radiation that falls within predetermined minimum and maximum limits. As stated above, Applicants have reduced the invention to practice in accordance with the teachings of this application and are prepared to submit a declaration to this effect.

Rejection Under 35 U.S.C. 102(b)

The Office Action rejects claims 1, 4 and 6-9 under 35 U.S.C. 102(b) as being anticipated by Welt U.S. Patent No. 5,400,382 ("Welt"). Independent claims 1, 4 and 7 have been amended to more particularly recite the subject matter in an effort to expedite prosecution. Particularly, these claims have been amended to recite that the absorption of the radiation energy from the source within the minimum and maximum limits is controlled by a fixture having irregularities complementary at the different positions to the irregularities provided by the article at the different positions. Welt clearly does not disclose such a fixture, and therefore cannot be said to anticipate claims 1, 4 and 7.

In view of the above, Applicants' respectfully request withdrawal of the rejection under 35 U.S.C. 102(b).

Conclusion

It is believed this amendment now has placed the application in condition for consideration and allowance. If necessary, the Commissioner is hereby authorized in this and concurrent replies to charge payment (or credit any overpayment) to Deposit Account No. 50-2298 of Luce, Forward, Hamilton & Scripps.

Respectfully submitted,

Date

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